

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546602

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-82-87-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P546602
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-4-LD4-1STD-35-UNV-82-87-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

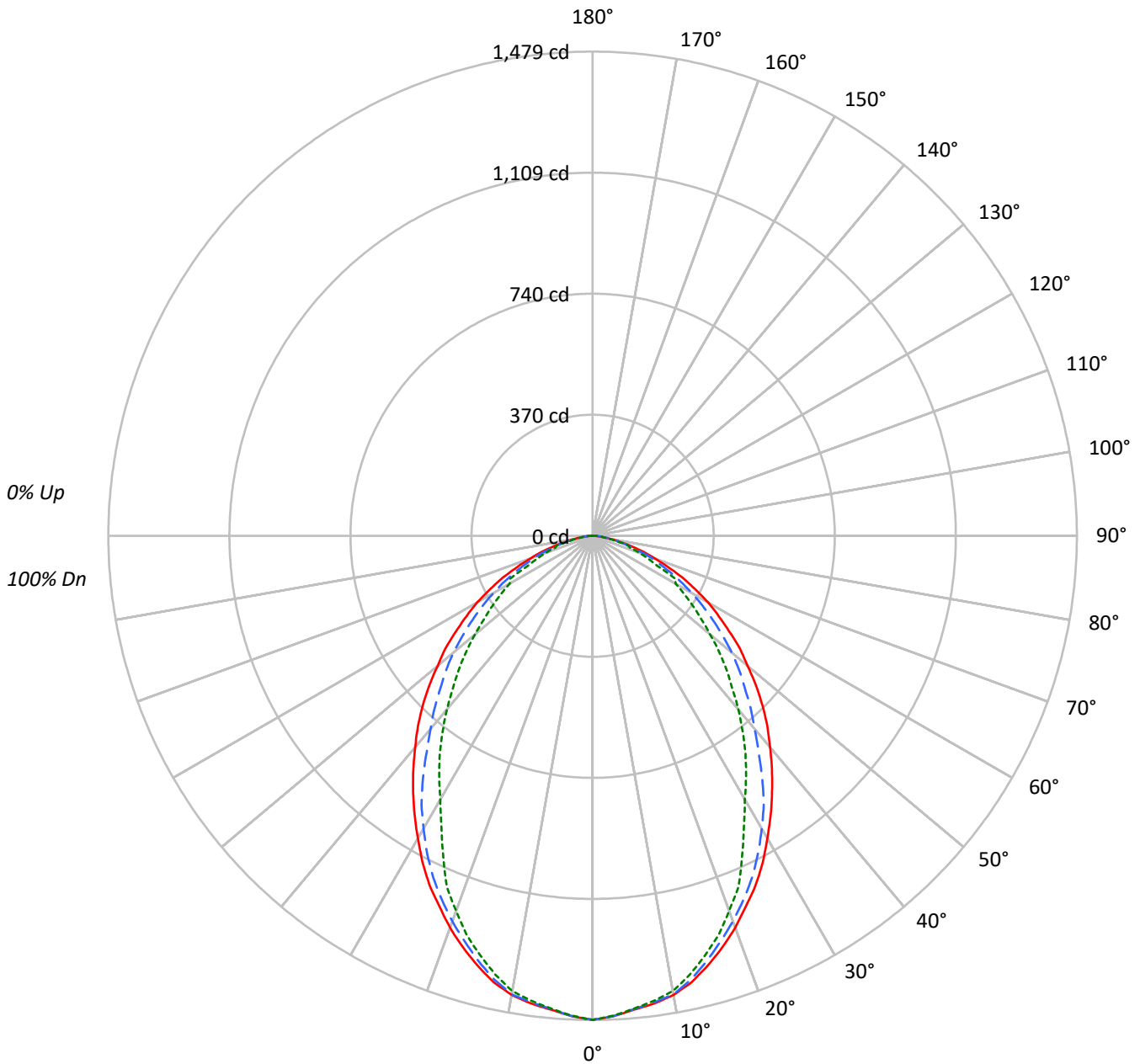
Lumens per Lamp: N/A
Luminaire Lumens: 2903.0 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

TEST NUMBER: P546602

CATALOG NUMBER: FMR-24-4-LD4-1STD-35-UNV-82-87-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1990	1990	1990
5°	1963	1960	1958
10°	1946	1943	1929
15°	1893	1874	1848
20°	1824	1794	1745
25°	1749	1711	1604
30°	1657	1604	1445
35°	1570	1483	1337
40°	1480	1351	1216
45°	1396	1249	1099
50°	1292	1159	980
55°	1195	1051	878
60°	1095	938	787
65°	963	822	697
70°	793	720	592
75°	631	551	578
80°	424	397	371
85°	264	316	369



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.7	4.7
10°-20°	377.8	13.0
20°-30°	523.0	18.0
30°-40°	557.7	19.2
40°-50°	508.8	17.5
50°-60°	398.6	13.7
60°-70°	259.8	8.9
70°-80°	115.1	4.0
80°-90°	24.7	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1038.4	35.8
0°-40°	1596.1	55.0
0°-60°	2503.4	86.2
0°-90°	2903.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2903.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1479	1479	1479	1479	1479	
5°	1453	1451	1451	1450	1450	138
15°	1359	1359	1345	1332	1327	382
25°	1178	1171	1152	1111	1080	541
35°	956	949	903	834	814	597
45°	733	718	656	602	578	565
55°	509	494	448	395	374	457
65°	303	286	258	263	219	298
75°	121	113	106	101	111	130
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1478.7	1478.7	1478.7	1478.7	1478.7
2.5°	1468.5	1468.5	1468.5	1466.8	1466.8
5°	1453.1	1451.4	1451.4	1449.7	1449.7
7.5°	1441.1	1439.4	1437.7	1436.0	1432.6
10°	1424.0	1424.0	1422.3	1413.8	1412.1
12.5°	1396.7	1395.0	1388.1	1376.2	1372.8
15°	1359.1	1359.1	1345.4	1331.7	1326.6
17.5°	1318.1	1316.3	1299.2	1285.6	1278.7
20°	1273.6	1270.2	1253.1	1230.9	1218.9
22.5°	1224.0	1224.0	1203.5	1174.5	1162.5
25°	1177.9	1171.0	1152.2	1111.2	1080.4
27.5°	1124.9	1114.6	1094.1	1036.0	1000.1
30°	1066.8	1061.6	1032.6	957.3	930.0
32.5°	1012.0	1003.5	972.7	894.1	871.9
35°	955.6	948.8	902.6	834.3	813.7
37.5°	899.2	890.7	832.5	777.8	752.2
40°	842.8	832.5	769.3	719.7	692.4
42.5°	789.8	776.1	714.6	661.6	630.8
45°	733.4	718.0	656.5	601.8	577.8
47.5°	677.0	663.3	606.9	550.5	523.1
50°	617.1	605.2	553.9	497.5	468.4
52.5°	567.6	548.8	499.2	442.8	418.8
55°	509.4	494.1	447.9	394.9	374.4
57.5°	456.4	441.1	398.3	348.7	331.7
60°	406.9	384.6	348.7	306.0	292.3
62.5°	352.2	335.1	304.3	268.4	285.5
65°	302.6	285.5	258.1	263.3	218.8
67.5°	247.9	239.3	215.4	191.5	184.6
70°	201.7	191.5	182.9	157.3	150.4
72.5°	160.7	150.4	138.5	124.8	119.7
75°	121.4	112.8	106.0	100.9	111.1
77.5°	83.8	80.3	75.2	70.1	68.4
80°	54.7	53.0	51.3	49.6	47.9
82.5°	32.5	32.5	32.5	32.5	32.5
85°	17.1	18.8	20.5	22.2	23.9
87.5°	10.3	10.3	12.0	13.7	15.4
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)